

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-19. Withdrawn

20. (Currently amended) An improved prosthetic spinal disc nucleus having a hydrogel core sized for implantation into a nucleus cavity and configured to hydrate from a dehydrated state to a hydrated state at natural swelling rate, the hydrogel core adapted to support opposing vertebrae in the hydrated state, the improvement comprising: altering wherein the hydrogel core is selected from the group consisting of poly(acrylamides), poly(N-vinyl-2-pyrrolidones), polyacrylates, poly (vinyl alcohols), poly(ethylene oxides), polyacrylonitriles, and acrylamide/acrylonitrile block co-polymers to hydrate at an elevated swelling rate that is at least 125% greater than the natural swelling rate.

21. (Currently amended) An improved prosthetic spinal disc nucleus having a hydrogel core sized for implantation into a nucleus cavity and configured to hydrate from a dehydrated state to a natural equilibrium swelling level adapted to support opposing vertebrae, the improvement comprising: altering wherein the hydrogel core is selected from the group consisting of poly(acrylamides), poly(N-vinyl-2-pyrrolidones), polyacrylates, poly (vinyl alcohols), poly(ethylene oxides), polyacrylonitriles, and acrylamide/acrylonitrile block co-polymers such that the device hydrates to an elevated equilibrium swelling level that is at least 110% greater than the natural equilibrium swelling level.

22. (Currently amended) A prosthetic spinal disc nucleus comprising a hydrogel core selected from the group consisting of poly(acrylamides), poly(N-vinyl-2-pyrrolidones), polyacrylates, poly (vinyl alcohols), poly(ethylene oxides), polyacrylonitriles, and acrylamide/acrylonitrile block co-polymers having cations incorporated into the hydrogel matrix,

such that the swelling rate of the hydrogel core is increased relative to a hydrogel core devoid of such cations.

23. (Original) The prosthetic spinal disc nucleus of claim 22, wherein said cation is a metallic ion.

24. (Original) The prosthetic spinal disc nucleus of claim 22, wherein said cation is an organic ion.

25. (New) The prosthetic spinal disc nucleus of claim 20, wherein the hydrogel core is a poly (vinyl alcohol).

26. (New) The prosthetic spinal disc nucleus of claim 20, wherein the hydrogel core is a polyacrylonitrile.

27. (New) The prosthetic spinal disc nucleus of claim 21, wherein the hydrogel core is a poly (vinyl alcohol).

28. (New) The prosthetic spinal disc nucleus of claim 21, wherein the hydrogel core is a polyacrylonitrile.

29. (New) The prosthetic spinal disc nucleus of claim 22, wherein the hydrogel core is a poly (vinyl alcohol).

30. (New) The prosthetic spinal disc nucleus of claim 22, wherein the hydrogel core is a polyacrylonitrile.

31. (New) The prosthetic spinal disc nucleus of claim 29, wherein said cation is a metallic ion.

32. (New) The prosthetic spinal disc nucleus of claim 29, wherein said cation is an organic ion.

33. (New) The prosthetic spinal disc nucleus of claim 30, wherein said cation is a metallic ion.

34. (New) The prosthetic spinal disc nucleus of claim 30, wherein said cation is an organic ion.